

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A microarray comprising spots of a biomolecule-compatible matrix having two or more components of a protein-based system entrapped within the matrix, wherein the spots are adhered to a surface and wherein the biomolecule-compatible matrix is a sol-gel derived from one or more organic polyol silanes.
- 2.-4. (Cancelled herein)
5. (Currently amended) The microarray according to claim 1 3, wherein the organic polyol silane is derived from one or more of allose, altrose, glucose, mannose, gulose, idose, galactose, talose, ribose, arabinose, xylose, lyxose, threose, erythrose, glyceraldehydes, sorbose, fructose, dextrose, levulose, sorbitol, sucrose, maltose, cellobiose, lactose, dextran, (500-50,000 MW), amylose, pectin, glycerol, sorbitol, and trehalose.
6. (Original) The microarray according to claim 5, wherein the organic polyol silane is derived from one or more of glycerol, sorbitol, maltose and dextran.
7. (Currently amended) The microarray according to claim 13, wherein the organic polyol silane is selected from one or more of diglycerylsilane (DGS), monosorbitylsilane (MSS), monomaltosylsilane (MMS), dimaltosylsilane (DMS) and a dextran-based silane (DS).
8. (Original) The microarray according to claim 7, wherein the organic polyol silane is selected from one or more of DGS and MSS.

9.-10. (Cancelled herein)

11. (Original) The microarray according to claim 1, wherein the matrix further comprises an effective amount of one or more additives.

12. (Original) The microarray according to claim 11, wherein the one or more additives are selected from one or more of humectants and protein stabilizing agents.

13. (Original) The microarray according to claim 12, wherein the one or more additives are selected from one or more organic polyols, hydrophilic, hydrophobic, neutral or charged organic polymers, block or random co-polymers, polyelectrolytes, sugars and amino acids.

14. (Original) The microarray according to claim 13, wherein the one or more additives are selected from one or more of glycerol, sorbitol, sarcosine and polyethylene glycol.

15. (Original) The microarray according to claim 14, where the additive is glycerol.

16. (Original) The microarray according to claim 1, wherein the surface is a solid support made of glass, plastic, polymers, metals, ceramics, alloys or composites.

17. (Original) The microarray according to claim 16, wherein the surface is a solid support made of glass.

18. (Original) The microarray according to claim 17, wherein the glass is cleaned to substantially remove any organic matter and adsorbed metal ions.

19. (Original) The microarray according to claim 17, wherein the glass is modified with aminopropyltrithoxysilane (APTES), glycidoxyaminopropyltrimethoxysilane (GPS) or another suitable coupling agent that promotes adhesion of the microspots to the planar surface.

20. (Original) The microarray according to claim 19, wherein the glass is modified with glycidoxyaminopropyltrimethoxysilane (GPS).

21. (Original) The microarray according to claim 1, wherein the spots are spatially defined.

22.-29. (Cancelled herein)